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ABSTRACT

One of a series of monographs providing information about the Delaware Model: A Systems Approach to Science Education (Del Mod System) to several audiences, this monograph is intended for those interested in creating cooperative programs with technical schools or community colleges. Program characteristics are stated showing what a two-year technical and community college can contribute to a system geared toward making a maximum impact on K through 12 and through post-doctoral students by providing a favorable climate for research and development. The Science Resource Center at the Southern Campus of the Delaware Technical and Community College and the education technician program are described. References are cited. (EB)

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**THE ROLE OF A
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DEL MOD
SYSTEM**

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del-mod system

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THE ROLE OF A TECHNICAL AND COMMUNITY COLLEGE IN THE DEL MOD SYSTEM

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FOREWORD

The Monograph Series provides information about the Delaware Model: A Systems Approach to Science Education (Del Mod System) to several audiences. This monograph is intended for those interested in creating cooperative programs with technical schools or community colleges.

Dean Lantis compares the educational rationale of the Southern Campus, Delaware Technical and Community College with the Del Mod System. She was a member of the Ad Hoc Committee to draft the 1971-2 proposal to the funding agencies. Her viewpoint is consistent with the consensus of that committee. We are fortunate to have a person of her educational stature prepare this monograph.

Robert L. Uffelman

ROBERT L. UFFELMAN,
Editor, Monograph Series

PROGRAM CHARACTERISTICS

How can a two-year technical and community college contribute to a system geared toward making a maximum impact on kindergarten through post-doctoral students by improving the extent and quality of science teaching and by providing a favorable climate for research and development¹ when the college goals are geared toward improving the economic base of the community by offering programs to anyone at least 18 years of age? Delaware Technical and Community College does not maintain curricula for teacher training nor does it require the staff to research and publish. Its liberal arts program on campus is contracted through the University of Delaware; moreover, most Del Tech instructors are employed for their ability to communicate business and industrial learning experiences. What does Del Tech have to offer the Del Mod System?

Simply stated, Del Tech's goals are:

1. To educate Delaware citizens for jobs
2. To motivate and produce attitudes leading to success today
3. To promote growth of the State's economic base
4. To develop a feeling of dignity in all levels of employees.

Within this framework, the Southern Campus operates in much the same manner as Del Mod through a system of communications and controls² featuring:

- ... monitoring and immediate feedback
- ... formative evaluation in conjunction with an ongoing review of activities and their impact
- ... cooperative working agreements with other agencies to effect changes
- ... measurable objectives for instruction and student services

- . . . flexible programs based on student needs and employment market
- . . . applied research consisting of employment surveys, student and alumni evaluations, rather than basic research
- . . . student comes first—not instructor or subject matter
- . . . emphasis on success with “recycles” rather than “failure” and interest in what the student *can do*.
- . . . modern human management techniques with options given, not orders, and applied psychology with one counselor for every 100 students
- . . . college receptionist foremost in communications chain
- . . . cooperative staff planning to design, discuss, test and modify
- . . . client input and advisory committees used universally
- . . . laboratory oriented, pragmatic approaches rather than stress on academic disciplines *per se* resulting in a concentration on climate and conditions for learning rather than on course content and credits
- . . . learning rather than teaching
- . . . accountability by instructor and counselor jointly assuming responsibility for student's course work success and job placement
- . . . erasure of traditional employment lines with all employees represented on College Senate and concentration on employee training, security, recognition, dignity, loyalty, ego needs and involvement
- . . . service to the community for which the College was designed
- . . . direction of employee energies toward goals and activities within a broad enough range for them to move around

. . . cooperative social cohesiveness that gets things done by removing obstacles in the swiftest, most efficient manner possible by administrators who listen and serve as enablers and keep communication channels open

. . . no compromise with quality

When Del Mod came to Del Tech, then, it found a comfortable home.

Del Tech has contributed to the Del Mod approach and will continue to contribute by providing an institutional working pattern which implements programs in much the same manner as Del Mod applies its programs to the schools—by quick communication, grass roots input and quick attention to defined needs.⁹ It not only acts as a model of a model, but also reinforces the model by putting the system into action. From the outset of its participation its “can do” *modus operandi*, did so.

Among the benefits that Del Mod provided to Del Tech are an exciting new Science Resource Center, the opportunity to extend its services to the science community and the privilege of working with other institutions to achieve goals of mutual concern.

SCIENCE RESOURCE CENTER

The Science Resource Center at Del Tech South teems with materials and ideas which teachers may try out; the staff concentrates on persuading teachers of Kent and Sussex Counties that science is a verb, a doing process with resources that will turn pupils on. At the present time plans are under way to video tape samples of learning experiences at all age levels, package them and take them along with some of the “hands on” kits and audio visuals to teachers in one of the College’s minibuses.

The Southern Campus Resource Center was operating within 90 days after the first employee was hired. This is not a unique situation within the College; e.g., Delaware Technical and Community College promises 60-90 day delivery on a new curriculum once it has been demonstrated that there is a need for the new program.

SCIENCE EDUCATION TECHNICIAN PROGRAM

The pilot Science Education Technician program is starting well because of the cooperation and feedback of other Del Mod components during joint planning of curriculum with Delaware State College and the University of Delaware. This jointly planned curriculum is an academic milestone within the State. Del Tech's science education students wishing to continue beyond the two-year degree will have fewer transfer problems because they will either have substituted courses from the receiving institution during their first two years or will have had the benefit of evaluation and course advice from the receiving institution as they progressed. For the first time since Del Tech's inception, student-transfer difficulty is diminished for science-oriented students thanks to the communication and feedback of the Del Mod System.

COMMUNITY SERVICE AND INVOLVEMENT

Underlying the total operation is a commitment to positive, person-oriented, "can do" service for the public which has produced trust and a certain pride of ownership within the community. People sense that the College cares about them. One of the ways that trust has been established is through community involvement in advisory committees. When a new curriculum is planned, a needs assessment is made. If there is solid evidence that potential employers are committed to hiring the future graduates, an advisory committee is appointed to assist in planning each degree or non-degree program.

Frequently, some of those contacted during an employment needs survey are invited to serve annually on the appropriate advisory committee. For example, the Del Tech/Del Mod Science Education Technician Advisory Committee is composed of school representatives who may be the future employers of this pilot program's graduates. Many members of the Committee were suggested by and/or chosen from other components of the Del Mod System. Here again both the College and Del Mod seek to serve their customers.

The college operating
~~The~~ flexibility carries over in the Del Mod component at Del Tech's Southern Campus. When it was discovered that increased outreach to science teachers was vital to the success of the Science Resource Center and when it was decided that the instructor working with science education technicians could implement that program more effectively by instructing in the College science courses, the job specification was revised to include coordinating learning experiences in the classroom as well as assisting the Field Agent in preparing programs and materials for teachers. The National Science Foundation funding to Delaware Technical and Community College was placed where it would count more than it would have counted if the science education technician coordinator had started the year concentrating on the design of tailor-made science education technician courses as originally planned. Flexibility in commitment and curriculum was maintained.

Del Tech and Del Mod are systems geared toward solving specific problems. Both are able to change to meet needs as they are perceived by the community they serve. Much effort of each is geared toward providing the climate and conditions to change students into *people-oriented workers* on the one hand and teachers into *coordinators of learning* on the other.

Del Tech and Del Mod have made an educational ninety degree turn, while maintaining a firm base built on educational expertise gleaned from generations of experience. Personnel of both become doers not talkers. Programs produce practical measurable results—proficient starting employees and prepared teachers. This systems approach has demonstrated initial program validity. It continues to enhance trust and mutual respect among participants so necessary for the achievement and success of Del Tech/Del Mod.

REFERENCES

- ¹Purnell, C. H. *The Delaware Model: A System Approach.*
- ²Uffelman, R. L. *Developing and Evaluating the Del Mod System.*
- ³Purnell, C. H. *Applying the Del Mod Model.*

DEL MOD MONOGRAPH SERIES

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